Amendments to the Claims:

This listing of claims will replace all prior listings of claims in the application.

Listing Of Claims:

1 (Currently Amended): An image sensing apparatus comprising:

an image sensing element ~~having a photoelectric conversion portion~~ at which a plurality of photoelectric conversion elements are two-dimensionally arrayed, wherein the image sensing element having a photoelectric conversion region which generates and storing signal charges of an object, an optical black region which outputs an optical black signal by shielding a part of the photoelectric conversion elements from light, ~~generating and storing signal charges of an object;~~ a vertical transfer portion which vertically transfers the signal charges stored in the photoelectric conversion portion in accordance with a vertical transfer pulse, ~~the vertical transfer portion also generates unnecessary charges different from the signal charges;~~ a horizontal transfer portion which horizontally transfers the signal charges transferred from the vertical transfer portion in accordance with a horizontal transfer pulse, [[;]] a horizontal drain portion which drains charges overflowing from the horizontal transfer portion, and [[;]] a charge detection portion which converts the signal charges transferred from the horizontal transfer portion into a signal voltage ~~or a signal current~~; and

an OB clamping circuit which clamps the optical black signal output from the optical black region to a reference voltage, wherein the OB clamping circuit having a switch which inputs the reference voltage from a reference power supply, and a capacitor,

wherein the image sensing element is configured in such a way that providing the horizontal transfer pulse to the horizontal transfer portion is stopped, and resetting operation of

the charge detection portion and clamping operation of the OB clamping circuit are continued while the signal charges are stored in the photoelectric conversion portion

~~a switch which inputs a reference voltage from a reference power supply; and~~

~~a driving circuit which, while the signal charges are stored in the photoelectric conversion portion, stops providing the horizontal transfer pulse to the horizontal transfer portion, and drains the unnecessary charges generated at the vertical transfer portions of said image sensing element through the horizontal drain portion only if the unnecessary charges are transferred over a tolerance of the horizontal transfer portion~~.

2 (Previously Presented): The apparatus according to claim 1, wherein the horizontal drain portion which drains unnecessary charges is arranged adjacent to the horizontal transfer portion in a vertical direction of the horizontal transfer portion, and when the unnecessary charges generated at the vertical transfer portion of said image sensing element reaches a predetermined amount at the horizontal transfer portion, the unnecessary charges are drained through the horizontal drain portion.

3 (Previously Presented): The apparatus according to claim 1, wherein while the signal charges are stored in the photoelectric conversion portion, the vertical transfer portion is driven at high speed to drain the unnecessary charges generated at the vertical transfer portion of said image sensing element.

4 (Previously Presented): The apparatus according to claim 1, wherein while the signal charges are stored in the photoelectric conversion portion, potentials of the vertical transfer portion is set to the same potential to drain the unnecessary charges generated at the vertical transfer portion of said image sensing element.

5 (New): The apparatus according to claim 1 further comprising a driving circuit configured to drain unnecessary charges generated at the vertical transfer of said image sensing element through the horizontal drain portion if the unnecessary charges are transferred over a tolerance of the horizontal transfer portion.